

(19)



JAPANESE PATENT OFFICE

PATENT ABSTRACTS OF JAPAN

(11) Publication number: 06306089 A  
(43) Date of publication of application: 01.11.1994

(51) Int. Cl

C07F 9/40

A61K 31/675, A61K 31/675, A61K 31/675, C07F 9/6506, C07F 9/6518,  
C07F 9/653, C07F 9/6539

(21) Application number: 05143237

(22) Date of filing: 15.06.1993

(30) Priority: 19.06.1992 JP 04160981  
24.02.1993 JP 05 35292

(71) Applicant: OTSUKA PHARMACEUT  
FACTORY INC

(72) Inventor: SHOJI YASUO  
TSUDA YOSHIHIKO  
TSUTSUMI KAZUHIKO  
INOUE YASUHIDE  
NANAMI CHIEKO

(54) PHOSPHONIC ACID DIESTER DERIVATIVE

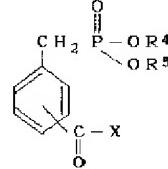
betes, etc.

COPYRIGHT: (C)1994,JPO

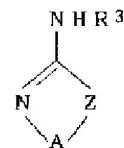
(57) Abstract:

PURPOSE: To obtain the novel compound useful as a therapeutic agent for hyperlipidemia, cataract, diabetes, etc., having hypolipidemic action, hypoglycemic action, etc., by reacting a phosphorylmethylbenzoic acid with an amino nitrogen-containing heterocyclic compound.

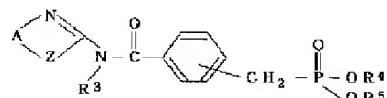
CONSTITUTION: A benzoic acid derivative of formula I ( $R^4$  and  $R^5$  are lower alkyl or phenyl lower alkyl; X is halogen) {e.g. 4-[(diethoxyphosphoryl) methyl]benzoyl chloride} is reacted with an amine of formula II [A is group of the formula  $CR^1=N$  ( $R^1$  is H, alkyl, phenyl, halogen, etc.) or group of the formula  $CR^1=CR^2$  ( $R^2$  is as shown for  $R^1$ );  $R^3$  is H, lower alkyl or phenyl; Z is S, O or NR<sup>6</sup> ( $R^6$  is lower alkylphenyl)] (e.g. 2-amino-4-phenylthiazole) in dichloromethane in the presence of pyridine under cooling with ice to obtain the objective phosphonic acid diester derivative of formula III useful as a therapeutic agent for hyperlipidemia, cataract, dia-



I



II



III